

Project Title:       **Staging, Storage, Sizing and Treatment Facility (SSSTF)**  
Document Type:     **Technical Specifications**                      Project Number:  
Revision Number:    0

1    SECTION 09300--CERAMIC TILE

2  
3    PART 1--GENERAL

4  
5    SUMMARY:

6  
7    Section Includes: Work includes, but is not limited to:

8  
9        Furnish and install ceramic tile and all related materials for complete installation.

10  
11   REFERENCES:

12  
13   The following documents, including others referenced therein, form part of this Section to the  
14   extent designated herein:

15  
16                      AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

17  
18        ANSI A108.1    Glazed wall tile, and ceramic mosaic tile, installed with Portland  
19                           Cement mortar

20        ANSI A108.5    Ceramic Tile Installed in the Dry-Set Portland Cement Mortar,  
21                           Specification

22        ANSI A137.1    Specification for Ceramic Tile

23  
24                                      TILE COUNCIL OF AMERICA (TCA)

25  
26        TCA                1995 Handbook for Ceramic Tile Installation

27  
28   SUBMITTALS:

29  
30   Submittals include, but are not limited to the following:

31  
32   Samples: Submit two samples of each color of ceramic tile (full size) and grout.

33  
34   Product Data: Submit two copies of product data for each product specified below.

35  
36   Grade Certification: Submit two copies of Master Grade Certificate from manufacturer,  
37   signed by manufacturer.

38  
39   Maintenance Manuals: Submit two copies of manufacturer's cleaning and maintenance  
40   manual covering products specified.

41  
42   See Section 01300, Submittals and Vendor Data Schedule for additional submittal  
43   requirements.

Project Number:

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Store material at temperature not less than 50° F. (10° C) during tile installation and maintain for seven days after completion.

**MANUFACTURERS:**

American Marrazzi Tile, Inc.  
American Olean Tile Co.  
Buchtal Corp.  
Dal-Tile Corp.  
Internation American Ceramics/Laufen  
Mid-State Tile Co.  
Monarch Tile Manufacturing, Inc.  
Summitville Tiles, Inc.

**Wall Tile:**

**Size:** Nominal 4 in. x 4 in. x 5/16 in. thick with cushion edge

**Trim and Base:** Trim and base shall be mounted in pregrouted sheets for wainscoats.

**Shower Tile:** Shower tile shall be supplied in pregrouted sheets with trim or base as required for application.

**Color:** To be selected from submitted samples

**Finish:** American Olean Crystalline textured or Dal Centenial, Similar to an orange peel surface.

**Grout:** Commercial portland cement grout in color to be selected.

**Size:** Combination of 1 x 1 in. and 2 x 2 x 1/4 in. with all purpose edge Ceramic Mosaic.

**Color:** To be selected from submitted samples. Pattern shall fall in price range C for American Olean.

**Finish:** Standard with 7 1/2% abrasive grain content.

**Trim:** Provide required bullnose and cove shapes for shower curbs.

Project Title:       **Staging, Storage, Sizing and Treatment Facility (SSSTF)**  
Document Type:    **Technical Specifications**                      Project Number:  
Revision Number:   0

1    Accessories:

2  
3    Provide soap dish, American Olean, No. 294, or approved equal, for each 10'-0" of lineal wall  
4    in gang showers and one for each individual shower stall. Provide 2 American Olean  
5    No. 293, or approved equal robehooks per shower and install where directed.

6  
7    SETTING BEDS:

8  
9    Wall Tile (except at showers):

10  
11   Thin-set - TCA Methods W243-95.

12  
13       Dry-set Portland Cement mortar, ANSI A118.1; UPCO Tile-Mate (TCA Formula 763),  
14       or approved equal.

15  
16       OR Latex-Portland Cement mortar, ANSI A118.4; Laticrete No. 4237, or approved  
17       equal.

18  
19   Wall Tile Grout: Commercial portland cement grout in color to be selected.

20  
21   Floor Tile Grout: Dry-set Portland Cement, Tile-Mate 719, or approved equal; or Latex-  
22   Portland Cement Grout, Laticrete No. 3701, or approved equal.

23  
24   Wall tile (showers): Thin set walls same as TCA method W202-95 except over concrete  
25   block.

26  
27   Wall tile (Wainscots): Thin set walls according to TCA method W242-95.

28  
29   Floor Tile (Showers): Thick-bed reinforced Portland Cement mortar, floor TCA Method  
30   similar to B416-95.

31  
32       Water Proof Membrane: Prefabricated membrane, AFCO copper sheet bonded to and  
33       between two layers of asphalt impregnated cotton fabric.

34  
35       Portland Cement mortar; 1-part Portland Cement 4 parts damp sand (volume).

36  
37       Reinforcing: 2 in. x 2 in. x 1 ga. wire mesh.

38  
39       3/32 in. bond coat of dry-set or latex cement mortar.

40  
41   Floor Tile: Dry-Set Mortar or Latex-Portland Cement Mortar Method F113-95.

42  
43  
44  
45    PART 3--EXECUTION

Project Title:       **Staging, Storage, Sizing and Treatment Facility (SSSTF)**  
Document Type:     **Technical Specifications**                      Project Number:  
Revision Number:    0

1  
2   **SURFACE PREPARATION:**  
3

4   Substrate shall be free from oil wax, coating or dust. All mortar joints shall be flush struck.  
5   Gypsum wallboard joints shall be taped and finished.  
6

7   **INSTALLATION:**  
8

9   **General:** Tile installed over gypsum wallboard shall be installed in accordance with TCA  
10   System W242-95 (Dry-Set or Latex-Cement Thin-Bed Mortar Method) ANSI A108.5, except  
11   as recommended by manufacturer.  
12

13   Tile installed over unit masonry shall be installed in accordance with TCA System W202-95  
14   and ANSI A108.5, except as recommended by manufacturer.  
15

16   Tile installed over cementitious backer units shall be installed in accordance with TCA  
17   System W244-95 and ANSI A108.5, except as recommended by Manufacturer.  
18

19   Tile installed over mortar bed in showers shall be installed according to TCA method B416-  
20   95.  
21

22   Tile installed over floor slabs shall be installed according to TCA method F113-86.  
23

24   All areas shall be measured and work laid out so that tiles are full size with cut pieces not less  
25   than one-half full size. Cut edges of tile shall be ground smooth.  
26

27   Tile shall be closely fitted around all electric outlets, pipes, fittings, etc. so that cover plates  
28   and collars will overlap tiles.  
29

30   Joints shall be of uniform width and at corners shall be on least exposed planes.  
31

32   **Job Conditions:** Maintain materials at temperature of 50\_F and above before, during tile  
33   installation and for seven days after completion.  
34

35   **Setting of Tile:** Install according to TCA recommendations for type of tiles specified.  
36

37   **Grouting of Floor Tile:** Allow maximum 24 hrs curing of organic adhesives prior to  
38   grouting. Apply grout in strict accordance with manufacturer's instructions. Grout shall be  
39   thoroughly forced into all joints, filling them to their entire depth. Grout shall be flush and  
40   level with finish face edge of tile.  
41

42   **Wall Tile Grout:** Comply with ANSI A108.10. Grout shall be provided along top of all  
43   wainscots, around all penetrations between plumbing fixtures, and supporting surfaces in  
44   conjunction with ceramic tile.  
45

Project Title:       **Staging, Storage, Sizing and Treatment Facility (SSSTF)**  
Document Type:     **Technical Specifications**                      Project Number:  
Revision Number:    0

1 Waterproof Membrane Installation: Surfaces to receive the shower pan shall be thoroughly  
2 dry, free from loose materials, and shall be coated with minimum of 1/16 in. thickness of  
3 asphalt mastic. The sides of the pan shall be turned up at least 6 in. and a hole shall be cut to  
4 fit the drains. Note the column showers may require installation of membrane prior to  
5 shower installation.

6  
7 MAINTENANCE STOCK:

8  
9 Subcontractor shall furnish 1 box each of ceramic tile used on this project for future repair.

10  
11 FIELD QUALITY CONTROL:

12  
13 Surveillance will be performed by the Contractor's Representative to verify compliance of the  
14 work to the drawings and specifications.

15  
16 CLEANING:

17  
18 Upon completion of grouting, all tile surfaces shall be thoroughly cleaned and buffed in  
19 accordance with printed instructions of tile manufacturer in such a manner as not to damage  
20 or affect tile surfaces or grouted joints.

21  
22 Finished Tile Work: Leave finished installation clean and free of cracked, chipped, broken,  
23 unbonded, or otherwise defective tile work.

24  
25 Before final inspection, remove protective coverings and rinse neutral cleaner from tile  
26 surfaces.

27  
28 END OF SECTION 09300  
29

Project Title:       **Staging, Storage, Sizing and Treatment Facility (SSSTF)**  
Document Type:    **Technical Specifications**                      Project Number:  
Revision Number:   **0**

1    SECTION 09510--ACOUSTICAL CEILINGS

2  
3    PART 1--GENERAL

4  
5    SUMMARY:

6  
7    The Subcontractor shall furnish all materials, labor, equipment and services required to  
8    provide acoustical ceilings, including complete suspension system and auxiliary framing, as  
9    shown on drawings.

10  
11   Section Includes: Work includes, but is not limited to:

12  
13   Furnish and install suspended acoustical ceiling systems complete as shown on drawings.

14  
15   REFERENCES:

16  
17   The following documents, including others referenced therein, form part of this Section to the  
18   extent designated herein:

19  
20            AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

21  
22            ASTM C 636   Standard Practice for Installation of Metal Suspension Systems for  
23                            Acoustical Tile and Lay-in Panels

24            ASTM E 1264   Standard Classification for Acoustical Ceiling Products

25  
26            INTERNATIONAL CONFERENCE OF BUILDING OFFICIALS (ICBO)

27  
28            UBC Std 25-2   Metal Suspension Systems for Acoustical Tile and for Lay-In Panel  
29                            Ceilings

30  
31            UNDERWRITERS' LABORATORIES (UL)

32  
33   SYSTEM DESCRIPTION:

34  
35   Design Requirements:

36  
37       Deflection: Suspension system components (auxiliary framing and exposed  
38       components, grid and acoustical panels) shall be limited to maximum deflection of  
39       1/360 of span.

40  
41       Level Tolerance: Finish grid components shall be level to within 1/8 in. in 12 ft.

42  
43       Connection Devices: Devices for anchoring and attachment of hanger wire shall  
44       conform to UBC Std 25-2 Section 25.212.

45   SUBMITTALS:

Project Title: **Staging, Storage, Sizing and Treatment Facility (SSSTF)**  
Document Type: **Technical Specifications** Project Number:  
Revision Number: 0

No submittals required unless an "or equal" item is proposed.

**QUALITY CONTROL:**

**Regulatory Requirements (Codes and Standards):** Comply with the following, codes and standards, unless otherwise specified herein.

UBC Uniform Building Code

**UL Fire Hazard Classification:** Ceiling tiles shall have a flame spread of 25 or less and smoke developed of 50 or less, and shall be UL labeled.

**DELIVERY, STORAGE AND HANDLING:**

Store materials in a heated building at temperatures above 55° F. Allow 72 hours for ceiling panels to reach temperature and humidity stability.

Protect from damage by weather, dust or the work of other trades. Damaged units shall not be used.

**PART 2--PRODUCTS**

**SUSPENDED CEILING SYSTEM:**

**[CHOOSE DESIGN AS REQUIRED BY PROJECT]**

**Tile:** The acoustical tile shall be Armstrong Minaboard [Cortega] design with regular edge, or approved equal. The tile shall conform to ASTM E 1264, Type IV, Class 25 (noncombustible) and shall carry an Underwriters' Laboratories, Inc., label. The tiles shall be white, 24 x 48 x 5/8 in.

**Performance:** Ceiling Tile shall have an NRC Range 0.50-0.70; STC Range 35-39; and a Light Reflectance of LR-0.80 minimum.

**Toilet Room Ceilings:** Toilet room panels shall be dirt-resistive, washable polyester vinyl, Armstrong, "Mylar RH90 Fire Guard No. 882 and 884, or approved equal.

**[NOTE TO DESIGNER: CHOOSE ONE OF THE TWO FOLLOWING PARAGRAPHS]**

**Standard Ceiling Suspension System:** The ceiling suspension system shall be an exposed tee grid for lay-in tiles, consisting of steel main and cross tees, prepainted white. System shall be Armstrong Prelude, DONN Type DX from USG Interiors, or approved equal.

**Fire-Rated Ceiling Suspension System:** The ceiling suspension system shall be a fire-rated exposed tee grid for lay-in tiles, consisting of fire-rated steel main and cross tees labeled for fire resistance classifications, prepainted white. Grid system shall carry Underwriters'

Project Title: **Staging, Storage, Sizing and Treatment Facility (SSSTF)**  
Document Type: **Technical Specifications** Project Number:  
Revision Number: 0

Laboratories labeling. System shall be DONN Type DXL from USG Interiors, Armstrong Prelude XL, or approved equal.

[SPECIFICATION HAS BEEN WRITTEN FOR INTERMEDIATE-DUTY. MODIFY APPROPRIATE ITEMS IF ANOTHER DUTY IS USED]

Structural Classification: The ceiling suspension system shall be "[Intermediate-duty] [Light-duty (avoid this one)] [Heavy-duty]" in accordance with UBC Std. 25-2 (Table 25-A).

#### MISCELLANEOUS:

Auxiliary Suspension Support Framing: Auxiliary Suspension Support Framing shall be Galvanized steel sections of size and configuration to maintain specified ceiling performance requirements.

Hanger Wire: Hanger wire shall be galvanized, 12 gage, soft annealed wire.

Sound Attenuation Blankets: Provide USG or OCF Sound Attenuation Blanket Insulation, 2 in. to 2 1/2-in. thick, or approved equal.

Acoustical Sealant: Provide USG or Tremco Acoustical Sealant, or approved equal.

Hold Down Clips: Use approved manufacturer's standard No. 24MSG spring steel clip, tested with assembly.

Spare Tiles: Subcontractor shall provide a minimum of [8][16][20] spare tiles of each color and design for future use by the owner.

#### PART 3--EXECUTION

##### COORDINATION WITH OTHER TRADES:

Prior to beginning work, review construction sequence of installation with other trades to designate potential interferences, and report to Contractor any discrepancy that would delay or deviate from job requirements.

##### JOB CONDITIONS:

Space Enclosure: Do not install interior acoustical ceilings until space is enclosed and weatherproof, and until wet-work in space is completed and nominally dry, and until work



Project Title: **Staging, Storage, Sizing and Treatment Facility (SSSTF)**  
Document Type: **Technical Specifications** Project Number:  
Revision Number: 0

above ceilings is completed, and until ambient conditions of temperature and humidity are continuously maintained at values indicated for final occupancy.

**Measure Each Ceiling Area:** Measure and establish layout of acoustical units to balance border widths at opposite edges of each ceiling. Comply with reflected ceiling plans wherever possible, changes shall be approved by the Contractor.

### INSTALLATION:

**General:** Install materials in accordance with manufacturer's printed instructions, and industry standards applicable to work.

**Suspension System:** Install ceiling grid in accordance with ASTM C 636 and the UBC Standard 25-2. Lateral force bracing is required as described by this standard. Light fixtures shall be supported according to ASTM C 636.

**Edge Moldings:** Install edge moldings at perimeter of acoustical ceiling area and at locations where necessary to conceal edges of acoustical units.

Screw-attach moldings to substrate at intervals not over 16 in. o.c. and not more than 3 in. from ends, leveling with ceiling suspension system to tolerance of 1/8 in. in 12 ft-0 in. Miter corners accurately and connect securely.

**Acoustical Panels:** Install acoustical panels in coordination with suspension system. Scribe and cut panels to fit accurately at borders and at penetrations.

### FIELD QUALITY CONTROL:

Surveillance will be performed by the Contractor's Representative to verify compliance of the work to the drawings and specifications.

### ADJUST AND CLEAN:

Clean exposed surfaces of acoustical ceilings, including trim and edge moldings. Comply with manufacturer's instructions for cleaning and touchup of minor finish damage. Remove and replace work that cannot be successfully cleaned and repaired to permanently eliminate evidence of damage.

END OF SECTION 09510

Project Title:       **Staging, Storage, Sizing and Treatment Facility (SSSTF)**  
Document Type:     **Technical Specifications**                      Project Number:  
Revision Number:    0

1    **SECTION 09650--RESILIENT FLOORING**

2  
3    **PART 1--GENERAL**

4  
5    **SUMMARY:**

6  
7    Install vinyl floor tile as indicated in the room finish schedule of the drawings.

8  
9    **Section Includes:** Work includes, but is not limited to:

10  
11    Furnish and install vinyl floor tile as indicated in the room finish schedule of the drawings.

12  
13    **SUBMITTALS:**

14  
15    **Samples:** The manufacturer's standard samples shall be submitted for selection by the  
16    Contractor.

17  
18    **QUALITY CONTROL:**

19  
20    **Single Source Responsibility:** Provide resilient flooring and accessories as produced by a  
21    single manufacturer, including recommended primers, adhesives, sealants, and leveling  
22    compounds.

23  
24    **DELIVERY, STORAGE AND HANDLING:**

25    Deliver product to the project site in the original unopened packages or cartons. The  
26    Subcontractor shall inspect for damage upon receipt of the product. Damaged material shall  
27    not be used.

28  
29    **SITE CONDITIONS:**

30  
31    **Temperature:** Maintain minimum temperature of 65° F (18° C) in spaces to receive resilient  
32    flooring for at least 48 hours prior to installation, during installation, and for not less than  
33    48 hours after installation. Store resilient flooring materials in spaces where they will be  
34    installed for at least 48 hours before beginning installation. Subsequently, maintain  
35    minimum temperature of 55° F (13° C) in areas where work is completed.

36  
37    **Resilient Flooring and Accessories:** Install resilient flooring and accessories after other  
38    finishing operations, including painting, have been completed. Do not install resilient  
39    flooring over concrete slabs until the latter have been cured and are sufficiently dry to achieve  
40    bond with adhesive as determined by manufacturer's recommended bond and moisture test.

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44  
45    **PART 2--PRODUCTS**

Project Title:       **Staging, Storage, Sizing and Treatment Facility (SSSTF)**  
Document Type:      **Technical Specifications**                      Project Number:  
Revision Number:    0

1  
2    **MATERIALS:**

3  
4    **Vinyl Tile:** The vinyl tile shall be 12 x 12 in. square, 1/8 in. thick, vinyl composition with  
5 through-grained patterns throughout the thickness of the tile. The color and pattern of tile  
6 shall be submitted to the Contractor for selection approval by the Designer.  
7

8    **ACCEPTABLE MANUFACTURERS:**

9  
10   Subject to compliance with requirements, provide products from one of the following  
11 manufacturers:

12  
13        Armstrong Products Co., (Supreme Vinyl Corlon, Civic Center II Excelon, Imperial  
14        Texture Excelon, Imperial Modern Excelon).  
15        Azrock Floor Products (Custom Cortina, FUTURA, 800 Series, Premiere).  
16        Kentile Floors Co., (Portilla, Avanti, Architectural Series).  
17        Mercer No. 18, "CPT Mat Edging."  
18

19   **Coved Base:** The base material shall be rubber or vinyl compound of standard manufacture,  
20 4 in. high, sufficiently flexible to allow for slight irregularities in the walls and floor. Color  
21 shall be selected by the Architectural Engineer. Base shall be coved for tiled areas and  
22 straight for carpeted areas. External corners and end sections of a special mold shall be  
23 provided as required at all 90-degree corners and ends, or the Subcontractor may form  
24 corners from linear stock .  
25

26   **PART 3--EXECUTION**

27  
28   **PREPARATION:**

29  
30   **Broom Clean or Vacuum:** Broom clean or vacuum surfaces to be covered, and inspect  
31 subfloor.  
32

33   **Leveling Compound:** Use leveling compound as recommended by flooring manufacturer for  
34 filling small cracks and depressions in subfloors.  
35

36   **Concrete Slab Primer:** Apply concrete slab primer, if recommended by flooring  
37 manufacturer, prior to application of adhesive. Apply in compliance with manufacturer's  
38 directions.  
39  
40  
41  
42

43  
44   **INSTALLATION:**  
45

Project Title: **Staging, Storage, Sizing and Treatment Facility (SSSTF)**  
Document Type: **Technical Specifications** Project Number:   
Revision Number: 0

General: Install flooring in strict compliance with the manufacturer's recommendations. Extend flooring into toe spaces, door reveals, and into closets and similar openings.

Tightly cement flooring to slab without open cracks, voids, raising and puckering at joints, telegraphing of adhesive spreader marks, or other surface imperfections. Hand roll flooring at perimeter of each covered area to assure adhesion.

Lay tile from center marks established with principal walls, discounting minor offsets, so that tile at opposite edges of room are of equal width. Adjust as necessary to avoid use of cut widths less than 1/2 tile at room perimeters. Lay tile square to room axis.

Match tiles for color and pattern by using tile from cartons in same sequence as manufactured and packaged if so numbered. Cut tile neatly around all fixtures. Broken cracked, chipped, or deformed tiles are not acceptable. Lay tile with grain running in one direction.

Adhere tile flooring to substrates using full spread of adhesive applied in compliance with flooring manufacturer's directions.

### Accessories:

**Wall Base:** Apply wall base to walls, columns, casework and other permanent fixtures in rooms or areas where base is required. Install base in lengths as long as practicable, with preformed corner units, or fabricated from base materials with mitered or coped corners. Tightly bond base to substrate throughout length of each piece, with continuous contact at horizontal and vertical surfaces.

Maintenance Stock: Subcontractor shall supply 100 spare floor tiles of the same batch and color as installed tile for future repairs.

### FIELD QUALITY CONTROL:

Surveillance will be performed by the Contractor's Representative to verify compliance of the work to the drawings and specifications.

### CLEANING AND PROTECTION:

**Adhesive:** Remove any excess adhesive or other surface blemishes, using neutral type cleaners as recommended by flooring manufacturer. Protect installed flooring with heavy Kraft paper or other covering.

**Finishing:** After completion of project and just prior to final inspection of work, thoroughly clean floors and accessories.

**Polish:** Apply polish and buff, with type of polish, number of coats, and buffing procedures in compliance with flooring manufacturer's instructions.

Project Title: **Staging, Storage, Sizing and Treatment Facility (SSSTF)**  
Document Type: **Technical Specifications** Project Number:  
Revision Number: 0

1 END OF SECTION 09650

Project Title: **Staging, Storage, Sizing and Treatment Facility (SSSTF)**  
Document Type: **Technical Specifications** Project Number:  
Revision Number: 0

SECTION 09680--CARPET

PART 1--GENERAL

## SUMMARY:

**Section Includes:** Work includes, but is not limited to:

Furnish and install carpet, carpet accessories, carpet cushion in all areas as indicated on drawings.

**Related Sections:** The following Sections contain requirements that relate to this Section:

Division 9 Section, "Resilient Flooring" for wall base and accessories".

REFERENCES:

The following documents, including others referenced therein, form part of this Section to the extent designated herein:

AMERICAN ASSOCIATION OF TEXTILE CHEMISTS AND COLORISTS (AATCC)

## Test Method 134     Electrostatic Propensity of Carpets

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM E 84      Standard Test Method for Surface Burning Characteristics of Building Materials

**ASTM E 648**    **Standard Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source**

ASTM E 662 Standard Test Method for Specific Optical Density of Smoke Generated by Solid Materials

ASTM D 3936 Standard Test Method for Delamination Strength of Secondary Backing of Pile Floor Coverings

## CARPET AND RUG INSTITUTE (CRI)

CRI 104      Standard for Installation of Commercial Textile Floor Covering Materials

## CODE OF FEDERAL REGULATIONS (CFR)

16 CFR 1630 (DOC FF 1-70) Standard for the Surface Flammability of Carpets and Rugs

Project Title:        **Staging, Storage, Sizing and Treatment Facility (SSSTF)**  
Document Type:      **Technical Specifications**                      Project Number:  
Revision Number:    0

**SUBMITTALS:**

Submittals include, but are not limited to the following:

**Product Data:** Submit product data for each type of carpet material, carpet cushion, and installation accessory specified. Submit manufacturer's printed data on physical characteristics, durability, fade resistance, and fire-test-response characteristics.

**[NOTE TO SPECIFIER: RETAIN THE FOLLOWING PARAGRAPH IF SEAMING  
IN HIGH TRAFFIC AREAS IS A CONCERN]**

**Shop Drawings:** Submit shop drawings showing columns, doorways, enclosing walls or partitions, built-in cabinets, and locations where cutouts are required in carpet. Indicate the following:

Carpet type, color, and dye lot.

Seam locations, types, and methods.

Type of installation.

**Samples:** Submit samples for verification of the following products, in manufacturer's standard sizes, showing the full range of color, texture, and pattern variations expected. Prepare Samples from the same material to be used for the Work. Label each sample with manufacturer's name, material type, color, pattern, and designation indicated on Drawings and carpet schedule. Submit the following:

Samples of each type of carpet material required.

Samples of each type of exposed edge stripping and accessory item.

**Maintenance Data:** Submit maintenance data for carpet to be provided in the operation and maintenance manual. Include the following:

Methods for maintaining carpet including manufacturer's recommended frequency for maintaining carpet.

Precautions for cleaning materials and methods that could be detrimental to finishes and performance. Include cleaning and stain-removal products and procedures.

**Warranty:** Submit warranty as called for under "Warranty".

See Section 01300, "Submittals" and Vendor Data Schedule for Submittal requirements.

Project Title:       **Staging, Storage, Sizing and Treatment Facility (SSSTF)**  
Document Type:     **Technical Specifications**                      Project Number:  
Revision Number:    0

1  
2  
3 QUALITY CONTROL:  
4

5 Single-Source Responsibility: Obtain each type of carpet from one source and by a single  
6 manufacturer.  
7

8 Carpet Fire-Test-Response Characteristics: Provide carpet with the following fire-test-  
9 response characteristics as determined by testing identical products per test method indicated  
10 below by UL or another testing and inspecting agency acceptable to authorities having  
11 jurisdiction. Identify carpet with appropriate markings of applicable testing and inspecting  
12 agency.  
13

14       Test Method: 16 CFR 1630 (DOC FF 1-70)

15       Rating:        Pass  
16

17 DELIVERY, STORAGE, AND HANDLING:  
18

19 General: Comply with the Carpet and Rug Institute's CRI 104, Section 5: "Storage and  
20 Handling".  
21

22 Deliver materials to project site in original factory wrappings and containers, labeled with  
23 identification of manufacturer, brand name, and lot number.  
24

25 Store materials in original undamaged packages, inside well-ventilated area protected from  
26 weather, moisture, soilage, extreme temperatures, and humidity. Lay flat, with continuous  
27 blocking off ground. Maintain minimum storage temperature of 68°F (20°C) at least three  
28 days prior to and during installation.  
29

30 SITE CONDITIONS:  
31

32 General: Comply with CRI 104, Section 6: "Site Conditions".  
33

34 Space Enclosure and Environmental Limitations: Do not install carpet until space is enclosed  
35 and weatherproof, wet-work in space is completed and nominally dry, work above ceilings is  
36 complete, and ambient temperature and humidity conditions are and will be continuously  
37 maintained at values near those indicated for final occupancy.  
38

39 **[PICK ONE OF THE TESTS FOR MOISTURE]**  
40

41 Subfloor Moisture Conditions: Moisture emission rate of not more than 3 lb/1000 sq. ft/24  
42 hrs (14.6 kg/1000 sq. m/24 hrs) when tested by calcium chloride moisture test in compliance  
43 with CRI 104, 6.2.1, with subfloor temperatures not less than 55°F (12.7°C).  
44



Project Title:       **Staging, Storage, Sizing and Treatment Facility (SSSTF)**  
Document Type:     **Technical Specifications**                      Project Number:  
Revision Number:    0

1    Test readiness of substrate by observing condensation on the underside of a 4 foot by 4-foot  
2    polyethylene sheet, fully taped at the perimeter to the substrate. No condensate shall be  
3    present after a 48-hour test period.

4  
5    Subfloor Alkalinity Conditions: A pH range of 5 to 9 when subfloor is wetted with potable  
6    water and pHDrion paper is applied.

7  
8    MAINTENANCE STOCK:

9  
10    Furnish extra materials described below that match products installed, are packaged with  
11    protective covering for storage, and are identified with labels clearly describing contents.

12  
13    Carpet: Before installation begins, furnish quantity of full-width units equal to 5% of amount  
14    installed.

15  
16    WARRANTY:

17  
18    Special Carpet Warranty: Submit a written warranty executed by carpet manufacturer and  
19    Installer agreeing to repair or replace carpet that does not meet requirements or that fails in  
20    materials or workmanship within the specified warranty period. Failures include, but are not  
21    limited to, more that 10% loss of face fiber, edge raveling, snags, runs, and delamination.

22  
23    Warranty Period: 5 yrs from date of Substantial Completion.

24  
25    PART 2--PRODUCTS

26  
27    MANUFACTURERS:

28  
29    Subject to compliance with requirements, manufactures offering products that may be  
30    incorporated in the work include, but are not limited to the following:

31  
32        Bentley  
33        Bigelow  
34        Harbringer  
35        Milliken  
36        Mohawk

37  
38    CARPET:

39  
40    See Data Sheet at the end of this Section.

1    INSTALLATION ACCESSORIES:

2  
3    Adhesives: Water-resistant, mildew-resistant, nonstaining type to suit products and subfloor  
4    conditions indicated and to comply with flammability requirements for installed carpet as  
5    recommended by the carpet manufacturer.

6  
7    Tackless Carpet Stripping: Water-resistant plywood in strips, 3/8 in. or 9/32 in. thick, as  
8    required to match cushion thickness; 2 rows or 3 rows, as indicated hereafter, of angular pins  
9    protruding from the top, designed to grip and hold stretch carpet backing.

10  
11    Seaming Cement: Hot-melt adhesive tape or similar product recommended by carpet  
12    manufacturer for taping seams and butting cut edges at backing to form secure seams and to  
13    prevent pile loss at seams.

14  
15    Carpet Edge Guard: Extruded or molded heavy-duty vinyl or rubber of size and profile  
16    indicated. Minimum 2 in. wide anchorage flange, manufacturer's standard color.

17  
18    PART 3--EXECUTION

19  
20    EXAMINATION:

21  
22    Verify that subfloors and conditions are satisfactory for carpet installation and comply with  
23    requirements specified in this Section and those of the carpet manufacturer.

24  
25    PREPARATION:

26  
27    Comply with carpet manufacturer's installation recommendations to prepare substrates  
28    indicated to receive carpet installation. Clean away debris and scrape up cementitious  
29    deposits from concrete surfaces to receive carpet. Broom or vacuum clean subfloors to be  
30    covered with carpet. Following cleaning, examine subfloors for moisture, alkaline salts,  
31    carbonation, or dust.

32  
33    INSTALLATION:

34  
35    Direct Glue-Down Installation: Comply with CRI 104, Section 8: "Direct Glue-Down."  
36    Comply with carpet manufacturer's recommendations for seam locations and direction of  
37    carpet; maintain uniformity of carpet direction and lay of pile. At doorways, center seams  
38    under door in closed position. Do not place seams perpendicular to door frame, in the  
39    direction of traffic through the doorway. Minimize seams in high traffic areas. Do not bridge  
40    building expansion joints with continuous carpet.

41  
42    Where demountable partitions or other items are indicated for installation on top of finished  
43    carpet floor, install carpet before installation of these items.

Project Title:       **Staging, Storage, Sizing and Treatment Facility (SSSTF)**  
Document Type:    **Technical Specifications**                      Project Number:  
Revision Number:   0

1    Cut and fit carpet to butt tightly to permanent vertical surfaces, permanent fixtures, and built-  
2    in furniture including cabinets, pipes, outlets, edgings, thresholds, and nosings. Bind or seal  
3    cut edges as recommended by carpet manufacturer where not covered by protective edge  
4    guards or overlapping flanges.

5  
6    Extend carpet under removable flanges and furnishings and into toe spaces, door reveals,  
7    closets, open-bottomed obstructions, alcoves, and similar openings.

8  
9    Install tackless stripping by nailing. Locate to ensure concealment of carpet edge between  
10   stripping and base of wall. Lay strip at entire perimeter of carpeted space, obstructions, and  
11   cutouts. Provide narrow stripping with 2 rows of pins when stretched width of carpet is 20  
12   feet or less or stripping with 3 rows of pins when stretched width exceeds 20 feet.

13  
14   Install with pattern parallel to walls and borders.

15  
16   Fit sections of carpet prior to application of adhesive. Trim edge cuts and butt cuts with  
17   seaming cement.

18  
19   Apply adhesive uniformly to substrate in accordance with manufacturer's instructions. Butt  
20   edges tight to form seams without gaps. Roll entire area lightly to eliminate air pockets and  
21   ensure uniform bond.

22  
23   Stair Installation: Comply with CRI 104, Section 12: "Carpet on Stairs."

24  
25   FIELD QUALITY CONTROL:

26  
27   Surveillance will be performed by the Contractor's Representative to verify compliance of the  
28   work to the drawings and specifications.

29  
30   CLEANING:

31  
32   Perform the following operations immediately after completing installation:

33  
34       Remove visible adhesive, seam sealer, and other surface blemishes using cleaner  
35       recommended by carpet manufacturer.

36       Remove protruding yarns from carpet surface.

37       Remove and dispose of debris and unusable scraps.

38       Vacuum carpet using commercial machine with face-beater element.

39       Replace carpet where soil cannot be removed.

40  
41   PROTECTION:

42  
43   General: Comply with CRI 104, Section 15: "Protection of Indoor Installation."

Project Title:       **Staging, Storage, Sizing and Treatment Facility (SSSTF)**  
Document Type:     **Technical Specifications**                      Project Number:  
Revision Number:    0

1 Provide final protection and maintain conditions, in a manner acceptable to manufacturer and  
2 Installer that ensure carpet is without damage or deterioration at the time of Substantial  
3 Completion.

4  
5 **TUFTED CARPET DATA SHEET**  
6

7 See Finish Schedule for location and carpet specification for approved manufacturer of  
8 sample style approval process. Based upon the following (minimums must be met or  
9 exceeded):

10  
11 Face Construction: Tufted Level-loop.  
12

13 Face Fiber: Antron Legacy or Antron Lumena - bulked continuous square hollow filament  
14 type 6.6 nylon with fluorochemical.  
15

16 Gauge: 1/10 in. or 5/64 in. balanced construction.  
17

18 Stitches (Vertical): 10 minimum per in., balanced construction.  
19

20 Pile Height: 7/32-in. minimum.  
21

22 Surface Pile Weight: 32-oz./sq. yd minimum. This does not include weight of backing.  
23

24 Primary Backing: Woven Polypropylene.  
25

26 Secondary Backing: Woven Polypropylene or unitary construction.  
27

28 Custom Backing: Dense commercial urethane foam unitized back.  
29

30 Width: 6-ft. minimum preferred.  
31

32 Antistatic: AATCC Test Method 134 electrostatic build-up in carpet. Static discharge is not  
33 to exceed 2.8 kV.  
34

35 Flammability: Pass methenamine pill test, DOC FF 1-70.  
36

37 Flame Spread: Critical radiant flux to meet Class I as tested by ASTM E 648.  
38

39 Smoke Density: 450, as rated by ASTM E 662.  
40

41 Tuft Bind: 15 lbs. wet or dry, minimum average for 8 pulls ASTM D 3936.  
42

43 Density:         $\frac{(\text{Surface Pile Weight}) (36)}{(\text{Pile Ht})} \approx 5,000$   
44

Project Title: **Staging, Storage, Sizing and Treatment Facility (SSSTF)**  
Document Type: **Technical Specifications** Project Number:  
Revision Number: 0

1  
2 END OF SECTION 09680

Project Title: **Staging, Storage, Sizing and Treatment Facility (SSSTF)**  
Document Type: **Technical Specifications** Project Number:  
Revision Number: 0

SECTION 09800--DECONTAMINABLE COATINGS

PART 1--GENERAL

SUMMARY:

Section Includes: Work includes, but is not limited to:

**[CLEARLY DEFINE ALL WORK INCLUDED AND/OR PROVIDE ROOM FINISH  
SCHEDULE]**

REFERENCES:

The following documents, including others reference therein, form part of this specification to the extent designated therein:

**AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)**

- |             |   |
|-------------|---|
| ASTM D 4082 | Standard Test Method for Effects of Gamma Radiation on Coatings for Use in Light Water Nuclear Power Plants |
| ASTM D 5144 | Standard Guide for Use of Protective Coating Standards in Nuclear Power Plants                              |
| ASTM E 84   | Standard Test Method for Surface Burning Characteristics of Building Materials                              |

**STEEL STRUCTURES PAINTING COUNCIL (SSPC)**

- |             |                                   |
|-------------|-----------------------------------|
| SSPC-SP1    | Solvent Cleaning                  |
| SSPC-SP2    | Hand Tool Cleaning                |
| SSPC-SP3    | Power Tool Cleaning               |
| SSPC-SP5    | White Metal Blast Cleaning        |
| SSPC-SP6    | Commercial Blast Cleaning         |
| SSPC-SP7    | Brush-off Blast Cleaning          |
| SSPC-SP8    | Pickling                          |
| SSPC-SP10   | Near White Blast Cleaning         |
| SSPC-11-87T | Power Tool Cleaning to Bare Metal |

**NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)**

- |          |                  |
|----------|------------------|
| NFPA 101 | Life Safety Code |
|----------|------------------|

SUBMITTALS:

Project Title: **Staging, Storage, Sizing and Treatment Facility (SSSTF)**  
Document Type: **Technical Specifications** Project Number:  
Revision Number: 0

Submittals include, but are not limited to the following:

Safety Precautions: Submit written safety precautions for each coating product.

Product Data: Submit product data indicating conformance to the requirements of these specifications, including surface preparation and application instructions.

See Section 01300, Submittals and Vendor Data Schedule for additional submittal requirements.

#### QUALITY CONTROL:

Regulatory Requirements (Codes and Standards): Comply with provisions of the following codes and standards, unless otherwise specified herein:

NFPA 101 for flame spread requirements as determined by ASTM E 84.

ASTM D 4082 for radiation resistance.

ASTM D 4256 for decontaminability.

Single Source Responsibility: The coating system, including sealers, patch compound, primer, and finish shall be the product of one manufacturer and/or as recommended by the manufacturer for compatibility.

#### DELIVERY, STORAGE AND HANDLING:

Delivery and Handling: The Subcontractor shall deliver all materials to the job site in original, new and unopened packages and containers bearing the manufacturer's name and label, and the following information:

Name of material

Manufacturer's stock number, lot or batch number and date of manufacture

Contents by volume for major vehicle constituents

Thinning instructions

Application instructions

Color name and number and shelf life.

Storage: All paint, stored thinners, coatings and other materials herein specified shall be stored in an enclosed room or area with adequate ventilation. The room or area shall be maintained at a minimum temperature of 70° F to facilitate mixing and application procedures. Each type of paint material shall be stored in a separate area within the room or space. All containers shall be kept closed until ready for mixing. Precautionary measures shall be taken not to damage the containers, labels, and tags.

Project Title:       **Staging, Storage, Sizing and Treatment Facility (SSSTF)**  
Document Type:     **Technical Specifications**                      Project Number:  
Revision Number:    0

1    Disposal: As directed by Special Conditions.

2  
3    **SAFETY PRECAUTIONS:**

4  
5    Safety precautions shall be observed at the time of coating application. Applications and  
6    mixing of paint materials made in open air and where ventilation is not limited shall have  
7    sufficient precautions to prohibit smoking, sparks, and open flames within a radius of 50 ft.  
8    During the application of decontaminable coatings, necessary precautions shall include  
9    proper ventilation, special fire precautions, measurements for control of solvent vapor  
10   concentrations, and use of Personal Protective Equipment (PPE) such as fresh air breathing  
11   masks. Written permission must be obtained from the Contractor before work commences.  
12   Manufacturer's written safety precautions shall be submitted and complied with by the  
13   Subcontractor.

14  
15   **PART 2--PRODUCTS**

16  
17   **MATERIAL:**

18  
19        **[COATING SERVICE LEVEL 1 APPLIES TO COATINGS INSIDE PRIMARY**  
20        **CONTAINMENT AREAS OF REACTOR BUILDINGS**

21  
22        **COATING SERVICE LEVEL II APPLIES TO COATINGS OF AREAS OUTSIDE**  
23        **OF PRIMARY CONTAINMENT AREAS, BUT SUBJECT TO RADIATION**  
24        **EXPOSURE AND RADIONUCLIDE CONTAMINATION.]**  
25

26    General: All paint shall be epoxy type, radiation resistant and decontaminable to at least 95%  
27    of total activity removed, meeting ASTM D 4082, D 5144 and E 84, and suitable for Nuclear  
28    Coating Service Level I or II as applicable. The paint system, including sealers, patch  
29    compound, primer and finish, shall be the product of one manufacturer and as recommended  
30    by the manufacturer for compatibility.

31  
32    Verify that the material is within the manufacturer's specified shelf life.

33  
34    No product used shall contain any lead or known or suspected carcinogen. This information  
35    is given on the Material Safety Data Sheet. In the following list of suggested products of  
36    application systems, none of the products are currently known or suspected of containing  
37    carcinogens. If at the time of vendor data submittal it has been determined that any of these  
38    products contain a known or suspected carcinogen, those products shall not be used.

39  
40    Provide products from the following list or approved equals.

41  
42    **Concrete:**

43  
44        Sealer: One coat of manufacturer's recommended thickness.  
45        Keeler and Long No. [3129 (Level II), 4129 (Level I)]



Project Title: **Staging, Storage, Sizing and Treatment Facility (SSSTF)**  
Document Type: **Technical Specifications** Project Number:  
Revision Number: 0

Ameron Nu-Klad 105A  
Carboline 890 (Level I & II)

**Filler/Surfacer:** Apply sufficient number of coats of manufacturer's recommended thickness.

Keeler and Long No. [3400/3500 with sand (Level II), 4000 (Level I)]  
Ameron NU-Klad 114A / Amerlock 400 BF  
Carboline Starglaze 2001 (Level I & II)

**Primer:** One coat of manufacturer's recommended thickness.  
Keeler and Long No. [3500 (Level II), 4500 (Level I)]  
Ameron Amerlock 400 NT (Level I & II)  
Carboline 890 (Level I & II)

**Finish Coat:** Two coats of manufacturer's recommended thickness.  
Keeler and Long No. [3500 (Level II), 4500 (Level I)]  
Ameron Amerlock 400 NT (Level I & II)  
Carboline 890 (Level I & II)

Color: White.  
Keeler and Long No. 6002  
Ameron WH2  
Carboline S 800

### Carbon Steel:

**Primer:** One coat of manufacturer's recommended thickness.  
Keeler and Long No. [3500 (Level II) 4500 (Level I)]  
Ameron Amerlock 400 NT (Level I & II)  
Carboline 890 (Level I & II)

**Finish:** Two coats of manufacturer's recommended thickness.  
Keeler and Long No. [3500 (Level II), 4500 (Level I)]  
Ameron Amerlock 400 NT (Level I & II)  
Carboline 890 (Level I & II)

Color: White  
Keeler and Long No. 6002  
Ameron WH2  
Carboline S 800

### Previously Painted Concrete Requiring Patching:

Sealer (for areas scarified to bare concrete): 0.5 to 1.5 mils DFT.  
Keeler and Long No. 3129  
Ameron Nu-Klad 105A

Project Title: **Staging, Storage, Sizing and Treatment Facility (SSSTF)**  
Document Type: **Technical Specifications** Project Number:  
Revision Number: 0

Carboline 1340

Patch Compound: Thickness as required to patch scarified concrete.

# Keeler and Long No. 3400

Ameron Nu-Klad 115 (for vertical surfaces)

Nu-Klad 110A (for horizontal surfaces)

Carboline 196

**Strike Flush Coat:** 8.0 to 10.0 mils DFT as required for repaired scarified areas.

Keeler and Long No. 3500

## Ameron Amerlock 400 NT

## Carboline 890

**Finish:** Two coats of manufacturer's recommended thickness.

Keeler and Long No. [3500 (Level II), 4500 (Level I)]

### Ameron Amerlock 400 NT (Level I & II)

### Carboline 890 (Level I & II)

Color: Color shall match the existing paint.

### Gypsum Board:

**Primer:** One coat of manufacturer's recommended thickness.

Keeler and Long No. 9400

## Carboline Multibond 120

**Finish:** Two coats of manufacturer's recommended thickness.

### Keeler and Long Hydro-Poxy enamel, H-series

## Carboline Sanitile

## PART 3--EXECUTION

**SURFACE PREPARATION:**

Surfaces to be painted shall be cleaned as recommended by the paint manufacturer to remove dirt, oil, grease, rust or other contaminants. Surfaces shall then be prepared in strict accordance with the coating manufacturer's instructions for optimum performance. Surface preparation for concrete shall be made before equipment and piping is installed in the rooms to be coated. The manufacturer's written procedures for surface preparation shall be submitted by the Subcontractor.

**APPLICATION:**

**General:** No paint shall be applied unless the temperature and humidity of the air and substrate are within the ranges of those recommended by the paint manufacturer (but in no

Revision Number: 0

case less than 50° F or 5° above the dew point, whichever is higher). No paint shall be applied inside a building when the temperature is less than 50° F. Spray painting will not be allowed inside buildings or structures.

Painting shall be in strict accordance with the recommended application procedures of the paint manufacturer. Written application procedures shall be submitted by the Subcontractor. Wet film thickness (WFT) as recommended by the paint manufacturer shall be applied to achieve the specified dry film thickness (DFT).

**WORKMANSHIP:**

The finished work shall be free from foreign material, runs, drops, ridges, waves, laps, brush marks, sags, and holidays, and variations in hiding texture and finish. All coats shall be applied so as to produce a uniform film of the specified thickness.

**FIELD QUALITY CONTROL:**

**Subcontractor Supplied Testing:** A spot test shall be made to determine the compatibility of the new system with the old. An area of the existing paint shall be solvent cleaned (SSPC-SP1) and a minimum 2 in. square patch of the new topcoat applied to 10 mil thickness and examined for adhesion, lifting, bleeding or other evidence of incompatibility within 24 hrs.

**Contractor Supplied Inspection:**

Surveillance will be performed by the Contractor's Representative to verify compliance of the work to the drawings and specifications.

**PROTECTION AND CLEANUP:**

**Protection:** Sufficient drop cloths, shields and other protective equipment shall be used to prevent sprays, cleaning solutions, or paint from fouling surfaces not being cleaned and painted. "Wet Paint" signs shall be provided and placed by the Subcontractor.

**Cleanup:** During the progress of the work, the Subcontractor shall remove from the site all discarded paint materials, rubbish, cans, and rags at the end of each work day and clean all coating equipment, brushes, sprayers, and related materials, as recommended by the manufacturer, at the end of each days' work.

Upon completion of special coating work, the Subcontractor shall clean window glass and other special-coating-spattered surfaces; and remove special coating spatters by proper methods of washing and scraping, using care not to scratch or otherwise damage finish surfaces. The Subcontractor shall not use cleaners containing chlorides on stainless steel.

At the completion of work, the Subcontractor shall touch-up, restore, and/or recoat surfaces of unacceptable work.

Project Title: **Staging, Storage, Sizing and Treatment Facility (SSSTF)**  
Document Type: **Technical Specifications** Project Number:  
Revision Number: **0**

1 END OF SECTION 09800